

# The uncertain lifespan of topics in the right frontier (and other issues)

QUD-Anno Challenge

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# Overview

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1. General remarks
2. Cataphoric questions
3. Incongruence
4. The lifespan of topics

## General remarks

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- Narrative text (short story) and BBC interview
- Using the QUDA tool (cf. Hesse et al. 2022)
- Annotations followed Riester et al. 2018, De Kuthy et al. 2018

## Annotation labels used

BG	background
CT	contrastive topic
DM	discourse marker / discourse connector ( <i>and, as, but, because, or, then, ...</i> )
DP	discourse particle, here: focus-sensitive particle ( <i>only, even, ...</i> )
F	focus
NAI	non-at-issue material
T	sentence topic (backgrounded referential expression)

## Evidentials [EV]:

- Non-at-issue parts of an utterance which are not appositive/supplemental (Potts 2005) in nature, but typically express the speaker's confidence in or source of the actual statement at issue.

### (1) [Interview:]

B): Q<sub>48</sub>: {*What about this new system for custom checks?*}

> A<sub>48'</sub>: Now, [we think]<sub>EV</sub> [those checks]<sub>T</sub> [can be absolutely minimal]<sub>F</sub>

> A<sub>48''</sub>: [and]<sub>DM</sub> [non-intrusive]<sub>F</sub>

### (2) [Narrative:]

Q<sub>46</sub>: {*Where does Mrs Simpson's prejudice come from?*}

> A<sub>46'</sub>: [Susie suspects]<sub>EV</sub> [it]<sub>T</sub> [has something to do]<sub>BG</sub> [with the small rooms]<sub>F</sub>

## (Contrastive) topic times [(C)TT]

- Goal: distinguish different topics
- Topic times (Klein 1992) temporally localize an event or state expressed by the current utterance.
- If overt, they may occur in language-specific syntactic positions, see (3).
- Topic times may be contrastive, as in (4).

(3) [Interview:]

LK: Q<sub>2</sub>: {*What happened to Johnson in the last few weeks?*}

> A<sub>2</sub>: [*in the last few weeks,*]<sub>TT</sub> [you've]<sub>T</sub> [lost major votes in the Commons,]<sub>F</sub>

(4) [Narrative:]

> A<sub>73''</sub>: [She]<sub>T</sub> [takes a deep breath]<sub>F</sub>.

> A<sub>73'''</sub>: [Exhales]<sub>F</sub>.

> Q<sub>74</sub>: {*What will Susie do after the bath?*}

>> A<sub>74</sub>: [*After,*]<sub>CTT</sub> [she]<sub>T</sub> [will change Mrs Simpson's sheets,]<sub>F</sub>



## Cataphoric questions

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Simons 2007, Simons et al. 2010, Tonhauser et al. 2013:

**Non-at-issue content** as

- not the *main point* of a proposition
- not relevant to the current QUD
- *peripheral* to the speaker's goals
- projective

Riester et al. 2018: p. 428

**Non-at-issue (NAI) material (relative to Q)**

An expression  $X$  whose denotation is **discourse-new** and which is contained in an assertion  $A$  is **not at issue** with respect to the current QUD  $Q$  iff  $X$  is **optional** with respect to  $Q$  [...]

- Note that we do not capture presuppositions, the speaker-oriented contributions of expressives and a lot of other non-at-issue **content!**

# Non-at-issueness of adjuncts and adjunct clauses

Ramm 2011, Fabricius-Hansen & Haug (2012) and others

## Brunetti et al. 2021:

- Treatment of all **adjuncts/adjunct clauses** which are not backgrounded or the main focus – i.e. those that are truly optional – as being non-at-issue
- Straightforward for sentence-final adjuncts, which simply form separate discourse segments

- (5) Q<sub>39</sub>: {What does Susie do about Mrs Simpson's room?}  
> A<sub>39</sub>: [Susie's]<sub>T</sub> [in there]<sub>T</sub> [every week]<sub>F</sub>  
> Q<sub>40</sub>: {What's her purpose there?}  
> > A<sub>40</sub>: [to clean,]<sub>F</sub>  
> > Q<sub>41</sub>: {Under what circumstances is she allowed to be there?}  
> > > A<sub>41</sub>: [but]<sub>DM</sub> [only]<sub>DP</sub> [under Mrs Simpson's watchful eye]<sub>F</sub>.

Schwarzschild (1999: p. 155)

GIVENNESS:

If a constituent is not given, it must be F-marked [i.e. focused].

(6) Since **he**<sub>T</sub> [got new glasses,]<sub>F</sub> [John]<sub>T</sub> [no longer confuses his sisters]<sub>F</sub>.

- On the surface, cataphors violate GIVENNESS.
- A discourse-new phrase ('he') is realized as an unaccented pronoun.
- Only a "mild" violation, because the principle is merely suspended for a short moment.

# Cataphoric questions

- Cataphoric questions (cf. Brunetti et al. 2021, Riester et al. 2021) are questions about *non-at-issue* material at the beginning of an utterance, usually adjuncts or adjunct clauses.
- Analogously to cataphors, adjuncts are subordinate to the matrix clause.
- General structure:

(7) Q<sub>0</sub>: ...  
> Q<sub>1</sub>: ...            **cataphoric question**  
>> A<sub>1</sub>: ...  
> A<sub>0</sub>: ...

## Example

(8) [Narrative:]

Q<sub>6</sub>: {*What does Susie do next?*}

> Q<sub>7</sub>: {*Susie rubs a place on her head as she does what?*}

>> A<sub>7</sub>: [As]<sub>DM</sub> [she]<sub>T</sub> [checks Mrs Simpson's calendar,]<sub>F</sub>

> A<sub>6</sub>: [Susie]<sub>T</sub> [rubs the place where the elastic cap from work  
scrunched all day]<sub>F</sub>

Once more, this amounts to a short-term violation of (Q)-GIVENNESS:

Q-GIVENNESS:

An implicit QUD can only contain given (active / salient) material.

- (9) Q<sub>26</sub>: {What does using sunflower oil as moisturiser mean for Susie?}
- > Q<sub>27</sub>: {For how long does she breathe the smell of cooking oil?}
  - > > A<sub>27</sub>: For [the whole day,]<sub>F</sub>
  - > A<sub>26</sub>: [she]<sub>T</sub> [breathes [the bitter staleness of]<sub>NAI</sub> cooking oil trapped behind the mask]<sub>F</sub>.
- (10) Q<sub>31.1</sub>: {What will Mr Johnson do?}
- > Q<sub>32</sub>: {Even when will Mr Johnson insist on dinner?}
  - > > A<sub>32</sub>: Even<sub>DP</sub> if [it's a matinee,]<sub>F</sub>
  - > A<sub>31.1</sub>: [Mr Johnson]<sub>CT</sub> will [insist on dinner]<sub>F</sub>.

(11) [Interview:]

Q<sub>8</sub>: {*What is the case, despite the Pro-Brexit vote?*}

> Q<sub>9</sub>: {*Are there people who don't think that was the right way to go?*}

BJ: >> A<sub>9</sub>: [And,]<sub>DM</sub> [yes,]<sub>F</sub>

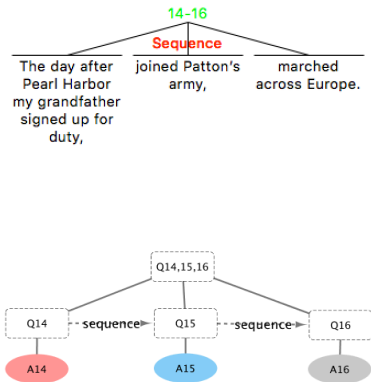
> A<sub>8</sub>: [there are many people [...] who don't think that was the right way to go]<sub>F</sub>.



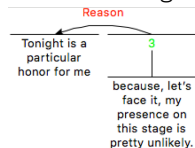
# QUDs and discourse relations

Systematic correspondence between discourse relations (as in RST, Mann & Thompson 1988, Taboada & Mann 2006) and QUDs

coordinating (multi-nuclear)



subordinating nucleus-satellite



Cataphoric QUDs correspond to subordinating discourse relations in which the satellite precedes its nucleus

- (4)  $Q_6$ : {*What does Susie do next?*}
- >  $Q_7$ : {*Susie rubs a place on her head as she does what?*}
- Satellite: >>  $A_7$ : [ $As$ ]<sub>DM</sub> [ $she$ ]<sub>T</sub> [ $checks\ Mrs\ Simpson's\ calendar,$ ]<sub>F</sub>
- CIRCUMSTANCE →
- Nucleus: >  $A_6$ : [ $Susie$ ]<sub>T</sub> [ $rubbs\ the\ place\ where\ the\ elastic\ cap\ from\ work\ scrunched\ all\ day,$ ]<sub>F</sub>

# Incongruence

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## Not answering an overt question

- Typical phenomenon of political interviews
- Instead, a more or less coherent reply is given, for which an implicit QUD must be reconstructed.

(12) [Interview:]

LK: > A<sub>24</sub>: [you're]<sub>T</sub> [trying to create a situation of them and us,]<sub>F</sub>

> Q<sub>25</sub>: **are you not?**

BJ: > Q<sub>26</sub>: *{What about getting Brexit done?}*

>> Q<sub>26.1</sub>: *{There is no way of getting Brexit done without what?}*

>>> A<sub>26.1</sub>: [I think that the truth is,]<sub>EV</sub> there's [**no**]<sub>CT</sub> [way of getting Brexit done]<sub>BG</sub> without, [as it were,]<sub>NAI</sub> [displeasing people who don't **want**]<sub>F</sub> [Brexit to get done]<sub>BG</sub>

# The lifespan of topics

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- We take (the set of) discourse topics to be **all entities contained in QUDs**.
- There is not one discourse topic, but a hierarchy (some more important higher up, some less important further down).
- The **topical structure** mentioned in van Kuppevelt (1995) corresponds to QUD structure.
- In a coherent discourse, a discourse topic has scope over the section/branch dominated by its QUD.
- Once, a topic has been sufficiently discussed (and its QUD satisfactorily answered), the branch is closed (the QUD removed from the stack).

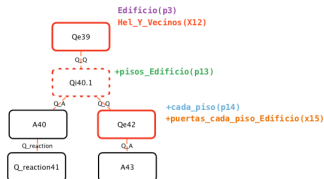
## Example: Spanish discourse [joint work with Amalia Canes Nápoles]

Qe39.0 ¿cuántos **sois** ?  
how\_many.WH be.VER. 2 . PL  
*How many are you ?*

Qi40.1 {¿How many **floors** are there in **the building** ?}

A40.0 pues son **cinco pisos**.  
.ADV be.VER. 2 . PL five.QUA floor.NOM  
*there are five floors.*

Qe42.0 **¿y en cada piso cuántas**  
and. in.PRP each.QUA floor.NOM . PO . 3 . PL how\_many.WH  
**puertas hay?**  
door.NOM. obj there\_are.VER  
*and on each floor how many doors are there?*



# A right frontier of QUDs

QUD: What is happening?

└─ QUD: What does **Susie** do?

└─ Susie lifts the lid of the abandoned teapot  
└─ and swirls the water.

└─ QUD: What about **the teapot**?

└─ QUD: What about **the teabag** in the teapot?

└─ The teabag sloshes against the sides.

└─ QUD: What about **the tea**?

└─ The tea is cold

└─ and bitter,

└─ QUD: What does Susie think about the tea?

└─ but Susie doesn't mind

└─ QUD: Why doesn't Susie mind the bitter tea?

└─ QUD: What does **her landlady** do with teabags?

- Entities in the right frontier are **active**.
- They can become **sentence topics** (e.g. semantic arguments of the at-issue proposition) without much effort, even after not having been mentioned for a short while.





# Ending a section

QUD: What is happening?  
QUD: What does Susie do?  
— Susie lifts the lid of the abandoned teapot  
and swirls the water.  
QUD: What about the teapot?  
— The teabag slashes against the sides.  
QUD: What about the tea?  
— The tea is cold  
and bitter,  
QUD: What does Susie think about the tea?  
— but Susie doesn't mind  
QUD: Why doesn't Susie mind the bitter tea?  
— QUD: What does her landlady do with teabags?  
— because her landlady, Mrs Simpson, normally reuses tea bags.  
QUD: What does this lead to by the time Susie gets home?  
— Usually, by the time Susie gets home, the tea mostly tastes of chlorine.  
QUD: What does Susie do next?  
— QUD: Susie rubs the piece on her head while she does WHAT?  
— As she checks Mrs Simpson's calendar,  
Susie rubs the piece where the elastic cap from work crunched all day.  
QUD: What is this rubbing?  
— A ploy.  
QUD: How does the skin on Susie's head feel?  
— The skin feels puckered  
and soft,  
like white and wrinkly fingertips in the bath.  
QUD: What memories does Susie have of baths?  
— QUD: What did Susie's mother do during a bath?  
— Her mother used to read  
QUD: Where would Susie's mother read?  
— beside the clawfoot bathtub her father imported from England.  
QUD: What would happen to the bathwater?  
— The water would go cold.  
QUD: What would Susie do while her mother was reading?  
— Susie—who wasn't a Susie at all then—would tuck her chin over the edge of the tub and listen,  
and listen.  
QUD: What would happen then?  
— QUD: What would happen to her skin?  
— Her skin would loose and crinkle.  
**QUD: What does Susie see in the abandoned cup on the table?**  
QUD: For whom does Mrs Simpson make fresh tea?  
— Mrs Simpson only makes fresh tea for Mr Johnson  
QUD: Where does Mr Johnson live?  
— next door.  
QUD: What about the cups Mrs Simpson used?  
QUD: What about one of the cups for Mr Johnson?  
— One cup still contains a mess—some slink of whiskey.  
QUD: What does Susie do with the cup?  
— QUD: What does Susie do with the rim of the cup?  
— Susie wipes the rim of the cup  
QUD: How does she wipe the rim of the cup?  
— with her sleeve  
— then pour herself some tea.  
QUD: What about the whiskey in the cup?  
— The whiskey is too dilute to be warm  
QUD: Despite that, what about the whiskey?  
— but it's nice to know it's there.  
**QUD: What does Susie see in the kitchen window?**  
QUD: In the kitchen window, she sees the red elastic mark below her hairline.  
QUD: What is Susie's reaction to the observation?  
— She suppresses a sigh  
QUD: What about the air of the suppressed sigh?  
— and the air sits heavy in her chest  
QUD: What does this reaction of Susie demonstrate?  
— Susie has a knack for ignoring discomfort.  
QUD: What about her knack?  
— It comes in handy at the factory.  
QUD: How did Susie's knack manifest itself that morning?  
— she felt an itch that morning  
QUD: Despite the itch what did Susie avoid to do about it?  
— but didn't scratch it until after her shift had ended.  
QUD: What is the cause of the itch?  
— QUD: What does Susie usually do?  
— She scratches her face pink before each shift.  
QUD: Why does she rub her face?  
— QUD: What about a single flake of dead skin from her face?  
— A single flake of dead skin can ruin a microchip.  
QUD: What about the factory?  
— But the factory is also vacuum-dry  
QUD: What does the dryness mean for Susie?  
— and she has to moisturise often.  
QUD: How does Susie moisturise?  
— QUD: What moisturiser can Susie afford?  
— She can only afford sunflower oil.  
QUD: What is the effect of using sunflower oil as moisturiser?  
QUD: For how long does she breathe cooking oil?  
— For the whole day,  
she breathes the bitter stinkiness of cooking oil trapped behind the mask.  
QUD: How does Susie's tongue feel because of it?  
— Her tongue is always wool.  
QUD: What about the wool there in her mouth?

# Discourse topics

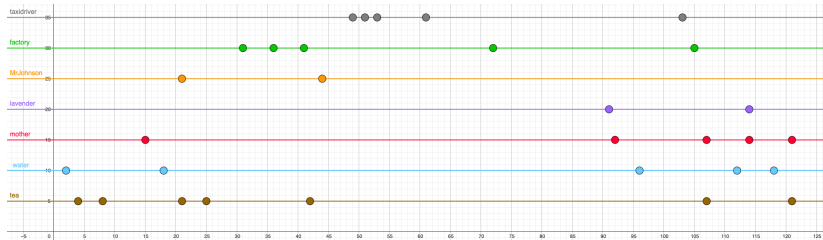
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Q101: What is happening?
    A101: What does Susie do?
        A101: Susie lifts the lid of the abandoned teapot
        and reverts the water.
    Q102: What about the teapot?
        A102: What about the teapot is the teapot?
            A102: The teapot sits on the table.
        Q103: What about the tea?
            A103: The tea is cold
            and bitter.
        Q104: What does Susie think about the tea?
            A104: But Susie doesn't mind
            Q105: Why doesn't Susie mind the bitter tea?
                A105: What does her landlady do with tea?
                    A105: because her landlady, Mrs Simpson, normally reuses tea bags.
                Q106: What does this lead to by the time Susie gets home?
                    A106: Usually, by the time Susie gets home, she has weakly tastes of omelette.
                Q107: What does Susie do next?
                    A107: Susie rubs the glass on her head while she does WHAT?
                        A107: As she checks Mrs Simpson's calendar,
                        Susie rubs the glass where the elastic cap from work scratched all day.
                Q108: What is this rubbing?
                    A108: A PAIN.
                Q109: How does the skin on Susie's head feel?
                    A109: The skin feels puckered
                    and soft.
                    like white and wrinkly fingertips in the bath.
                Q110: What memories does Susie have of baths?
                    A110: What did Susie's mother do during a bath?
                        A110: her mother used to read
                        beside the clawfoot bathtub her father imported from England.
                    Q111: What would happen to the bathwater?
                        A111: The water would go cold.
                    Q112: What would Susie do while her mother was reading?
                        A112: Susie—who wasn't a Susie at all then—would tuck her chin over the edge of the tub and listen.
                    Q113: What would happen then?
                        A113: What would happen to her skin?
                            A113: Her skin would loose and crinkle.
                            and crackle.
                Q114: For whom does Mrs Simpson use fresh tea?
                    A114: Mrs Simpson only makes fresh tea for Mr Johnson
                Q115: Where does Mr Johnson live?
                    A115: next door
                Q116: What about the cups Mrs Simpson used?
                    A116: What about one of the cups for Mr Johnson?
                        A116: One cup will contain a non-memo stick of whiskey.
                Q117: What does Susie do with the cup?
                    A117: What does Susie do with the rim of the cup?
                        A117: Susie wipes the rim of the cup
                Q118: How does she wipe the rim of the cup?
                    A118: with her sleeve
                    when Susie herself uses tea.
                Q119: What about the whiskey in the cup?
                    A119: The whiskey is so dilute to be warm
                Q120: Despite that, what about the whiskey?
                    A120: her hat isn't nice to have it's there.
                Q121: How does Susie look at the kitchen window?
                    A121: In the kitchen window, she sees the red elastic mark below her hairline.
                Q122: What is Susie's reaction to the observation?
                    A122: She suppresses a sigh
                    and the air sits heavy in her chest
                Q123: What does this reaction of Susie's demonstrate?
                    A123: Susie has a mark for ignoring discomfort.
                    Q124: What about her head?
                        A124: It comes in handy at the factory.
                    Q125: How did Susie's mark manifest itself that morning?
                        A125: She felt an itch that morning
                    Q126: Despite the itch what did Susie need to do about it?
                        A126: but Susie's reaction is useful after her skin has healed.
                    Q127: What is the cause of the itch?
                        A127: What does Susie usually do?
                            A127: she covers her face pink before each shift.
                    Q128: Why does she rub her face?
                        A128: Why does a single flake of dead skin can ruin a microchip.
                    Q129: What about the factory?
                        A129: But the factory is also warm-dry
                    Q130: What does the dryness mean for Susie?
                        A130: and she has to moisturize her skin.
                    Q131: How does Susie moisturize?
                        A131: What moisturizer can Susie afford?
                            A131: She can only afford sunflower oil.
                    Q132: What is the effect of using sunflower oil as a moisturizer?
                        A132: For the long term the Esmolite smelly stilt
                            for the whole day.
                    Q133: She touches the bitter sensation of cooking oil trapped behind the mask.
                        A133: How does Susie's tongue feel because of it?
                            Her tongue is always wet.
                    Q134: What about the wet taste in her mouth?
                        A134: In the dust-free factory, her mouth fills with the rat-grey feel of it.
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elastic cap, Susie's skin, Susie's mother, bathtub, bath

Mr Johnson, tea cup with whiskey

“red elastic mark”, Susie's knack of ignoring discomfort, factory, sunflower oil ...

# Some entities mentioned in narrative text







- Other than in an (ideal) informative text, the entities/discourse topics mentioned in the story seem to belong to several subsections
- Still, apart from *Susie* (and perhaps *Mrs Simpson* and *tea*) they are not **global discourse topics**.
- If the notion of a right frontier still makes any sense in literary texts, we do not want to keep such entities in there for too long.





## Open questions (for me)

- How long can entities be stored in the right frontier? (And how can we tell?)
- How does “normal” topic change (e.g. alternation between several active participants) differ from topic re-activation?
- What does it mean cognitively that an entity has slipped out of the right frontier (but is of course not entirely forgotten)?
- Wishlist QUDA tool: enable discourse topic annotation in QUDs







Thank you!


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